Attorney Docket No. 9362-3 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Williams *et al.*
Serial No.: 10/662,757
Filed: September 15, 2003
Confirmation No.: 1920
Group Art Unit: 1792
Examiner: James Lin

For: *INTRALUMINAL PROSTHESES AND CARBON DIOXIDE-ASSISTED METHODS OF IMPREGNATING SAME WITH PHARMACOLOGICAL AGENTS*

Date: January 27, 2009

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APPELLANTS' REPLY BRIEF ON APPEAL UNDER 37 C.F.R. §41.41

This Reply Brief is filed in response to the Examiner's Answer mailed December 23, 2008.

It is not believed that an extension of time and/or additional fee(s)-including fees for net addition of claims-are required, beyond those that may otherwise be provided for in documents accompanying this paper. In the event, however, that an extension of time is necessary to allow consideration of this paper, such an extension is hereby petitioned under 37 C.F.R. §1.136(a). Any additional fees believed to be due in connection with this paper may be charged to our Deposit Account No. 50-0220.

I. New translation of Igaki et al. (WO 200243799) (with U.S. Publication 2003/0104030 as the evidence of translation)) presented for the first time in the Examiner's Answer.

As an initial point, Appellants are uncertain why the Examiner has now presented a human translation of Igaki et al. when throughout prosecution the Examiner was apparently satisfied with the translation as provided by "the English equivalent U.S. Publication No. 2003/0104030" (hereinafter "U.S. Publication No. '030"). U.S. Publication No. '030 was cited by the Examiner as the "English equivalent to WO 2002/43799" in the first substantive Office Action mailed August 18, 2006 and it has been maintained as such throughout prosecution (*See,* Office Actions mailed on January 23, 2007; August 1, 2007, February 15,

2008, and Advisory Action mailed April 20, 2008). It is important to note that while the disclosures of these texts are similar, they are not identical. Further, the human translation includes three additional figures (Figures 12-14) and corresponding text (page 9, para. 2, 3, and 4; and page 24 para. 2 through page 26, para. 2), which Appellants have not seen before. Appellants believe use of the new human translation for the first time in the appeal process prejudices the Appellants' position. Appellants have by necessity relied upon the disclosure in U.S. Publication No. '030 to support arguments distinguishing the present invention from WO 2002/43799 because this is the document the Examiner introduced and relied upon in making his arguments. However, it is now no longer clear whether citations to U.S. Publication No. '030 are appropriate since the Examiner has changed his reliance to a different translation. If the Examiner needed a human translation to make his point, Appellants believe that this should have been done much earlier in prosecution so as not to prejudice the position of the Appellants.

In addition, the use of this new reference makes the job of the Board of Patent Appeals and Interferences more difficult because the Board must now refer to two different translations (U.S. Publication No. '030 and human translation of WO 2002/43799) for arguments regarding a single foreign language reference, WO 2002/43799.

Accordingly, Appellants believe that the Examiner should be required to cite to U.S. Publication No. '030, which was originally chosen by the Examiner as the "English equivalent" to WO 2002/43799 and relied upon throughout the last two years of prosecution.

II. The Examiner's Answer – Response to Argument

Appellants will refrain herein from readdressing all of the deficiencies with the pending rejections and, therefore, in the interest of brevity, Appellants hereby incorporate herein the arguments set out in Appellants' Brief on Appeal filed on October 1, 2008 (hereinafter "Brief") as if set forth in their entirety. Accordingly, Appellants will only address new arguments made in the Examiner's Answer.

A. Claims 73, 74, 76, 80-84 and 86 are patentable over U.S. Patent Publication No. 2003/0104030 to Igaki et al.

Independent Claim 73.

The Examiner's Answer maintains the contention that Igaki et al. inherently teaches a concentration gradient based on a single disclosure in Igaki et al. of a gradual exhaustion of the CO_2 to the atmosphere (Examiner's Answer, page 11-12). As Appellants have previously pointed out, this citation when read in context also states that as a result of the exhaustion of the CO_2 to the atmosphere the stent becomes "fully impregnated" (Igaki et al., Para 62); Appeal Brief, page 8-9). One of skill in the art would **not** interpret this as meaning that the stent of Igaki et al. comprises a concentration gradient of the impregnated drug.

In order to bolster the argument that Igaki et al. teaches a concentration gradient, the Examiner's Answer further contends that a concentration gradient can be zero such as "a flat road can have a gradient of zero degrees." (Examiner's Answer, page 12). Appellants disagree that such an interpretation would be given to the phrase "concentration gradient" by those of ordinary skill in the art. Further, such an argument makes no sense in the context of the present invention. The concentration gradients of the present invention are defined as giving rise to modified elution profiles of the pharmacological agent (Specification, page 16, line 31, through page 17, line 2). Therefore, one of skill in the art would reasonably understand the present invention to require "a gradual change in the concentration of solutes in a solution as a function of a distance through a solution" (Appeal Brief; page 12). As previously discussed in detail in the Appeal Brief (page 8-12), Igaki et al. fails to show such a concentration gradient. In fact, Igaki specifically teaches the use of layers of non-impregnated biodegradable polymer material to control the release time and further layers of impregnated biodegradable polymer material to control the release time and the quantity of the drug (Igaki et al., Para. 0072). That Igaki et al. teaches the use of layers to control release time and rate of release of an impregnated drug is further supported by the human translation of Igaki et al. (pages 24-26; section entitled "experiment 3" and Figures 12-14). Here a detailed discussion is provided regarding the preparation of these layers and how they are used to control release time and rate of release. Further, as previously pointed out, Table 3 and Figures 10 and 11 of Igaki et al. clearly support the conclusion that the methods of Igaki

et al. teach only single concentrations of the impregnated drug in the biodegradable polymer material.

Thus, nowhere does Igaki et al. teach or suggest an interluminal device wherein a pharmacological agent becomes elutably trapped within the non-layered polymeric material in a predetermined concentration gradient, wherein the concentration gradient defines an elution profile of the pharmacological agent from the non-layered polymeric material as claimed by the present invention. Accordingly, Appellants submit that 73 and claims dependent thereon are patentable over Igaki et al. and respectfully request that this rejection be withdrawn.

B. Claims 73, 74, 76-78, 80-82, 86, 88, 89, 91-93 and 98 are patentable over European Patent No. EP 0405284 to Greiner.

Independent Claim 73.

The Examiner's Answer maintains the contention that Greiner et al. teaches a concentration gradient. This contention is based upon the volatility of the solvent or swelling agent and the ability of the swelling agent to dissolve the pharmacological agent. (Examiner's Answer, pages 13-14). Specifically, the Examiner relies on a recitation of Greiner et al. wherein it states: "After contacting, the volatile swelling agent is separated from the catheter leaving the pharmaceutical behind. Because of the volatility of the swelling agents employed, separation is easily accomplished by lowering the pressure." (Greiner et al. col 4 lines 2-6). From this, the Examiner's Answer concludes that as the swelling agent escapes from the impregnated catheter, it would take with it some of the pharmaceutical impregnated in the catheter by redissolving some of the impregnated pharmaceutical. According to the Examiner this would be a more prominent effect at the outer surface of the catheter than inside the catheter and thus would result in more of the impregnated pharmaceutical being removed at the outer surface of the catheter as compared to the portions further from the surface and thus, would necessarily result in a concentration gradient. However, this is just conjecture on the part of the Examiner and appears to be based on a theory of inherency. No supporting evidence from either Greiner et al. itself or any other reference is provided to show that the process described by the Examiner necessarily occurs. As previously pointed

out in the Appeal Brief (page 10-11), inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." (*In re Robertson* 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). (Emphasis added.) In the present case, no evidence is provided to show that the methods of Greiner et al. might result in a concentration gradient, much less that it would necessarily result in a concentration gradient as contended by the Examiner. Without such evidence, this rejection for obviousness cannot be maintained.

Accordingly, Appellants submit that Greiner et al. fails to teach or suggest an intraluminal device wherein a pharmacological agent becomes elutably trapped within the non-layered polymeric material in a predetermined concentration gradient, wherein the concentration gradient defines an elution profile of the pharmacological agent from the non-layered polymeric material as claimed by the present invention. Therefore, for this reason and reasons of record, Appellants submit that claim 73 and claims dependent thereon are patentable over Greiner et al. and respectfully request the withdrawal of this rejection.

Independent Claim 88.

With regard to independent claim 88, the Examiner's Answer states that the process of Greiner would necessarily result in a concentration gradient of the pharmaceutical in the polymeric material as discussed for independent claim 73. For the reasons of record as well as those set forth above, Appellants disagree. No evidence is provided to support the contention set forth in the Examiner's Answer that a concentration gradient would necessarily be formed in the process of Greiner et al. Therefore, Greiner et al. fails to teach or suggest all of the recitations of claim 88. Thus, Appellants submit that claim 88 and claims dependent thereon are patentable over Greiner et al. respectfully request that this rejection be withdrawn.

Conclusion

In light of the entire record and the above discussion, Appellants respectfully submit that each of the pending claims is patentable over the cited references and therefore request reversal of the rejections of Claims 73-104 and that this case be passed to issuance.

Respectfully submitted,

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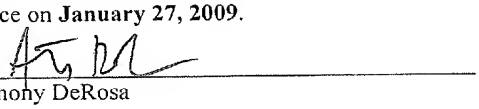

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